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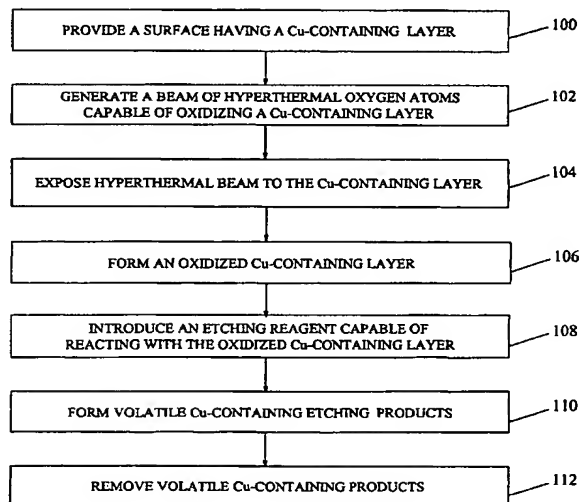
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(54) Title: ANISOTROPIC DRY ETCHING OF CU-CONTAINING LAYERS



(57) Abstract: A method and apparatus for dry etching pure Cu and Cu-containing layers (220, 310) for manufacturing integrated circuits. The invention uses a directional beam of O-atoms with high kinetic energy (340) to oxidize the Cu and Cu-containing layers, and etching reagents (370) that react with the oxidized Cu (360) to form volatile Cu-containing etch products (390). The invention allows for low-temperature, anisotropic etching of pure Cu and Cu-containing layers in accordance with a patterned hard mask or photoresist (230, 330).

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